



# **UPDATE ON BLM's GEOTHERMAL PROGRAM – LEASING/DEVELOPMENT**

## **Colorado Geothermal Working Group Meeting**

**Colorado School of Mines**

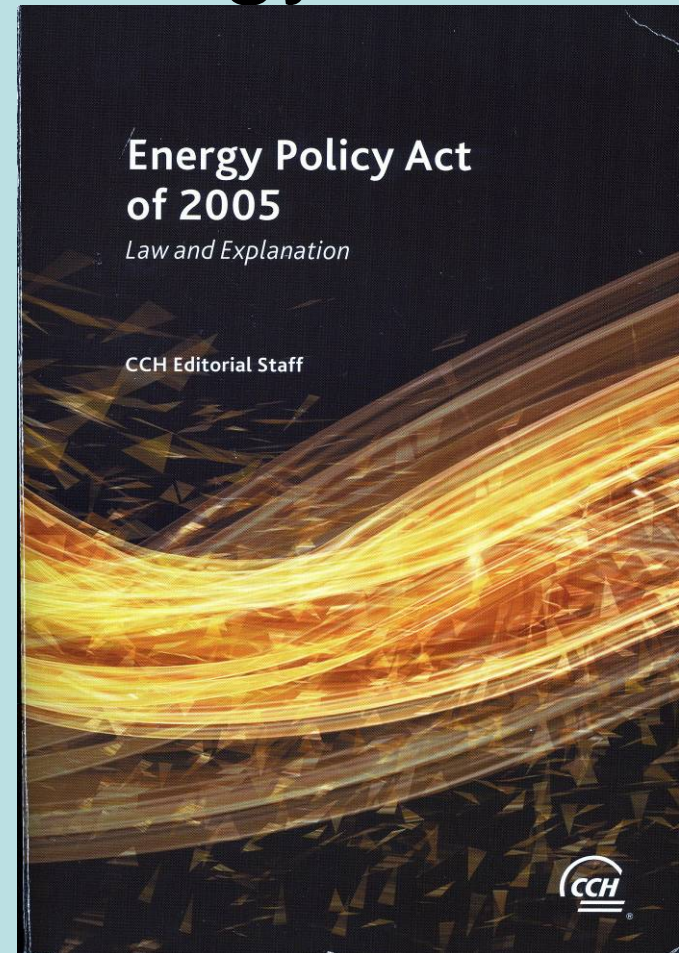
**Tuesday April 8, 2008**

**U.S. Department of the Interior  
Bureau of Land Management  
Kermit Witherbee, Washington, DC**



# Geothermal Tasks – Energy Act

- **Published Final Geothermal Rule (Sec 221-236), May 2, 2007**
- **Coordination of Leasing & Permitting (Sec 225)-BLM/FS MOU, 4/14/2006**
- **Preparing Programmatic Geothermal EIS (Sec 225)-BLM/FS, DOE Cooperator, DEIS (2/2008)**
- **Revenue Distribution: 50% paid to State, 25% paid to County (Sec 224), and 25% to DOI for 5 years to implement EAct (Sec. 234)**



# Geothermal Tasks – Energy Act

- **Held Utah and Idaho Competitive Sale (Sec 222), June 20, 2007**
  - UT, 3 parcels, 6,018 ac, \$3.7m
  - ID, 5 parcels, 8,904 ac, \$5.7m
- **Held California and Nevada Sale (Sec 222), August 14, 2007**
  - CA, 6 parcels, 2711 ac, \$m
  - NV, 43 parcels, 122,849 ac, \$11.4m





# Statistics

## Geothermal Energy

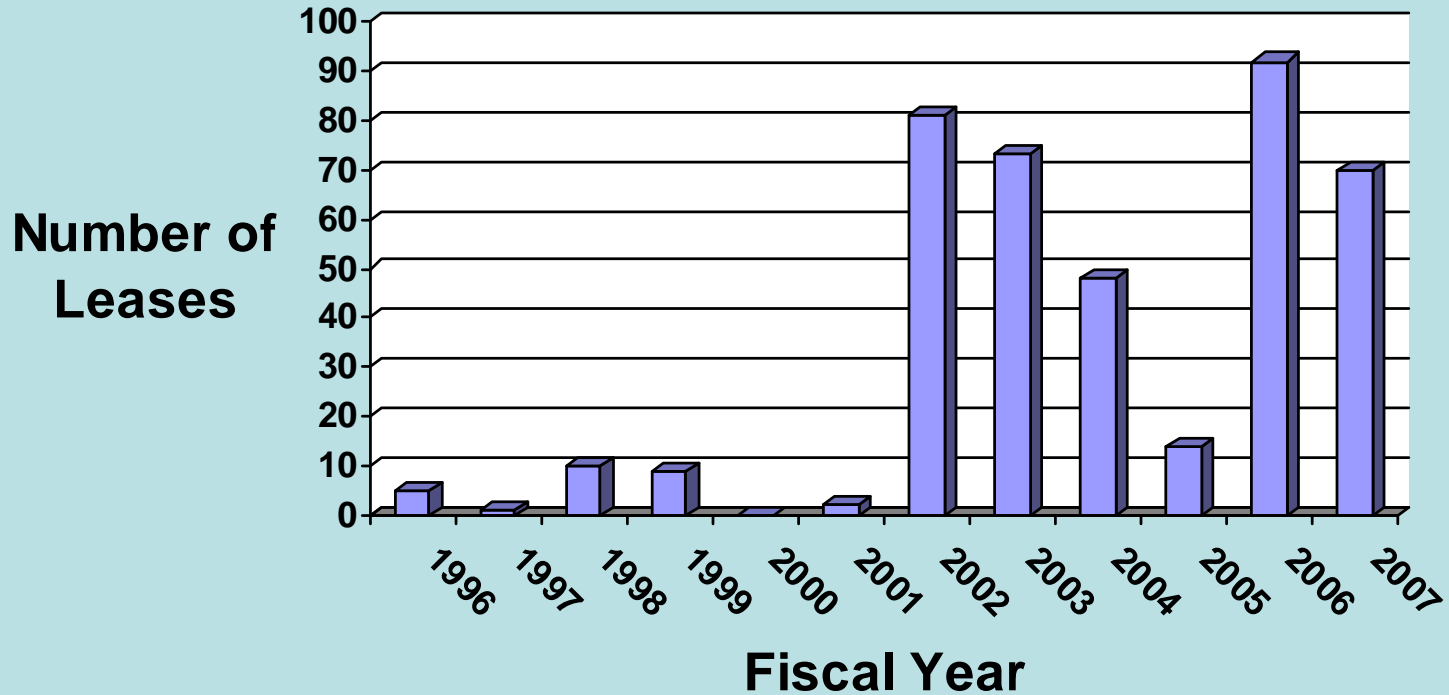
- 17% of U.S. renewable electricity generation
- 0.4% total U.S. electricity supply
- 2,875 MW total installed capacity in U.S.
- 1,275 MW capacity from federal leases

## Geothermal Leases

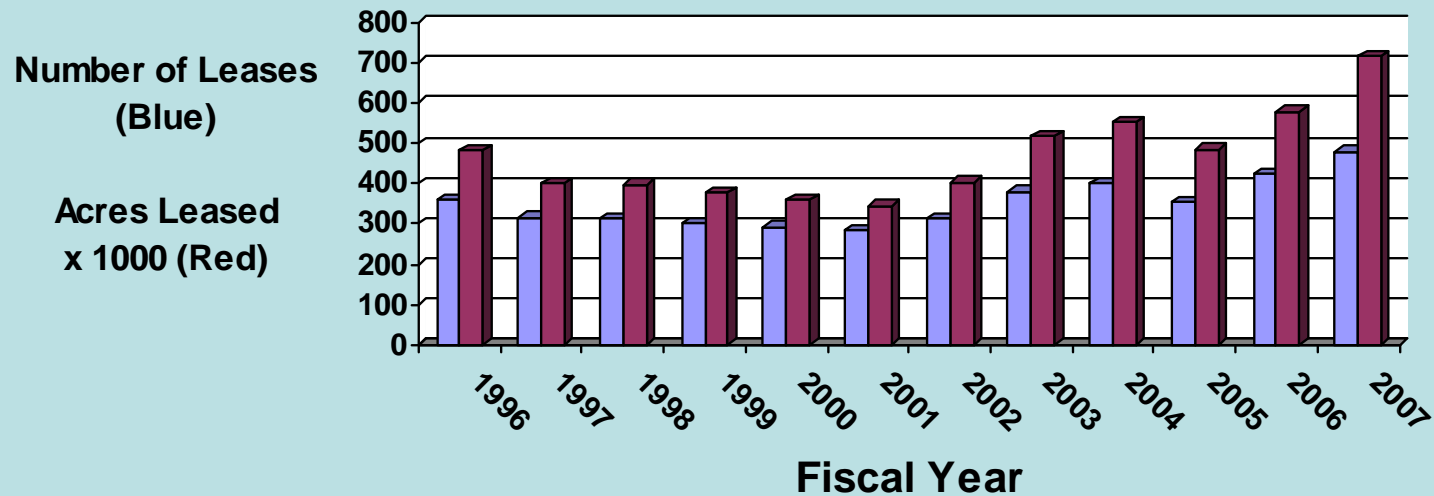
**Total 480 leases, 713,566 acres**

- NV – 324 leases, 533,810 acres
- CA – 73 leases, 93,091 acres
- OR – 60 leases, 56,576 acres
- UT - 11 leases 13,796 acres
- ID – 7 leases, 9,628 acres
- NM – 4 leases, 4,581 acres
- AZ - 1 lease, 2,084 acres

# Geothermal Leases Issued FY 1996-2007

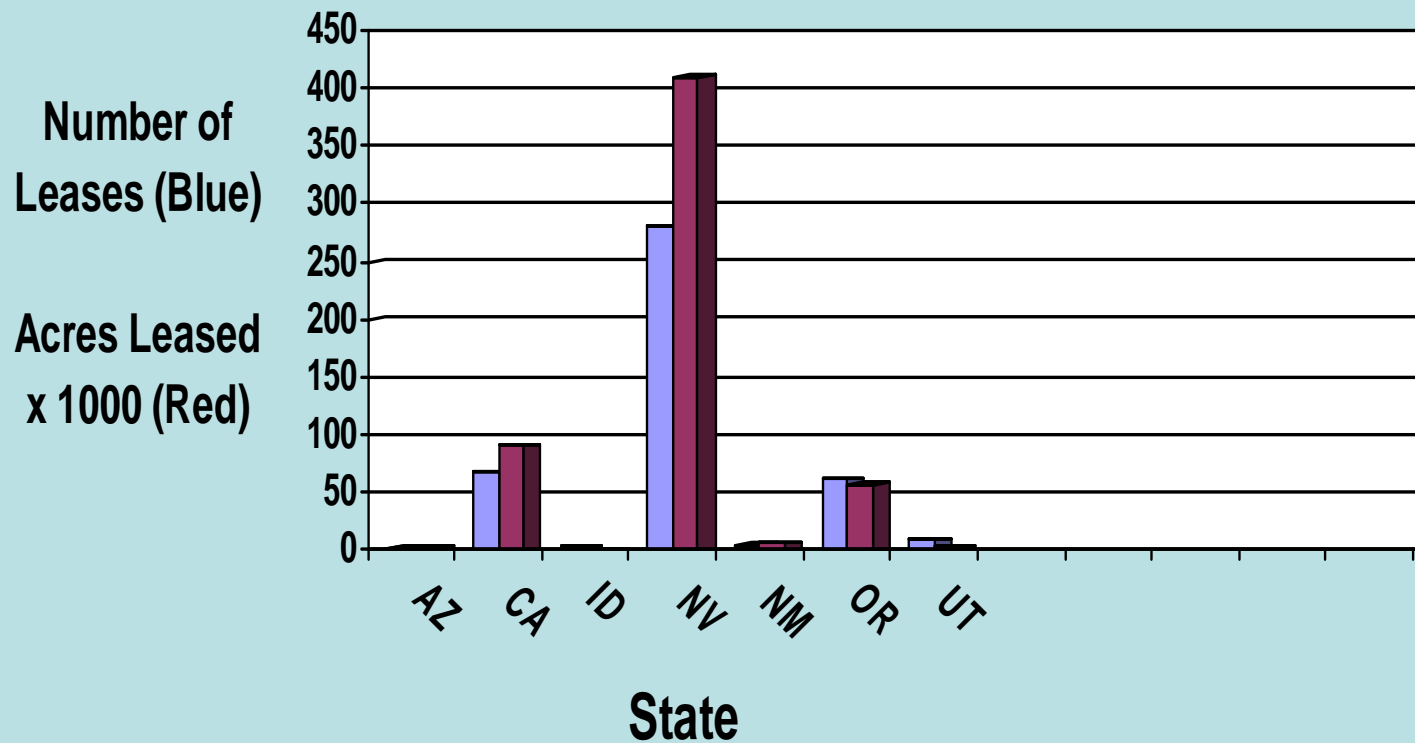


# Geothermal Leases in Effect FY 1996-2007





# Geothermal Leases in Effect FY 2007



# **Geothermal Leasing Process**

## **Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**



# FEDERAL GEOTHERMAL LEASING PROCESS MODEL

The Geothermal Steam Act of 1970

Authorizes geothermal leasing on BLM, National forest and other Federal lands, as well as private lands where the Federal government has retained mineral rights.

## BLM State Office: Conducts Lease Sales

(Regulations that govern the BLM's geothermal leasing program may be found in Title 43, Groups 3200)

ENERGY POLICY ACT  
2005

Lands included in offers filed for noncompetitive leases, i.e., Parcels from lands beyond the 24 month period on noncompetitive eligibility

Parcels nominated by Industry.

Parcels identified by the BLM for land & resource management reasons.  
Example: Protective leasing.

## Field Office: Checks/Evaluates Parcels

for availability, other agency consent, presence of Wilderness Study Area (WSA) and ACEC concerns, potential resource conflicts and environmental issues.

Develops and makes recommendations for special stipulations and/or withdrawal from proposed offering.

## State Office: Consolidates List of Parcels.

Final Sale Notice posted at least 45 days prior to sale.

## State Office: Competitive Sale -- Oral Auction

### No Bid

### Successful Bid

## Land Use Planning System

BLM determines what lands are available for leasing through the land use planning system (mandated by the Federal Land Policy & Management Act (FLMPA) of 1976).

Generally, BLM lands are allocated in one of four categories: open with standard stipulations, open with special terms or conditions, open but no surface occupancy allowed, or closed to leasing.

## Land Use Plans (LUPs)

Analyze land uses and resources to determine what lands should be open to oil and gas leasing.

## Additional Site-Specific Analysis

Occurs prior to exploration, ground disturbing activities, or development activity.

## Supplemental Environmental Reviews

Occur prior to lease sales to ensure consistency with LUPs and NEPA adequacy. Review may result in parcels being deferred for further analysis or environmental stipulations being placed on the lease

Not Leased

Lease available over-the-counter for 24 months

Filing Received

Issue **Noncompetitive Lease**  
(10 year primary term)

**Lessee/Operator**  
Exploration Development  
Production Abandonment Reclamation

Production

Lease Termination or Expiration

No production

## Fluid Minerals Program (BLM-Related Follow-through)

Plans of development  
Bonding- \$ 10,000.00/Lease  
Assignments & Adjudication  
Diligence  
Production Verification  
Collections  
Unitization/Communization  
Drainage  
Plugging and abandonment  
NEPA: EIS,EA,CXs  
Geophysical Permits  
Rights-of-way  
Gas storage  
Development Contracts  
RFD Analysis  
Resource Assessments

Issue **Competitive Lease**  
(10 year primary term)

**Lessee/Operator**  
Exploration  
Development  
Production  
Abandonment  
Reclamation

Production

No production

Lease Termination or Expiration

(MMS)

(USGS & DOE)

# **Programmatic Geothermal EIS**

- 1. Programmatically assess the direct, indirect, and cumulative effects of leasing, exploration and development of geothermal resources on high priority areas (critical locations) on BLM- and FS-administered lands in order to expedite leasing. Additional environmental documentation would be required prior to actual exploration drilling and development.**
- 2. Amend BLM and FS Resource Management Plans/Land Use Plans for geothermal leasing, based on PEIS analysis.**
- 3. Provide analysis so site-specific leasing decisions can be made for the pending backlog geothermal lease applications received by the BLM and FS prior to January 1, 2005.**

# **Programmatic Geothermal EIS**

**The Bureau of Land Management (BLM) and the USDA Forest Service (FS) are preparing a joint Programmatic Environmental Impact Statement (PEIS) to analyze and expedite the leasing of BLM-and FS-administered lands with high potential for renewable geothermal resources in 11 western states and Alaska.**

# **Programmatic Geothermal EIS**

## **Schedule**

**May 2008 -- Draft PGEIS**

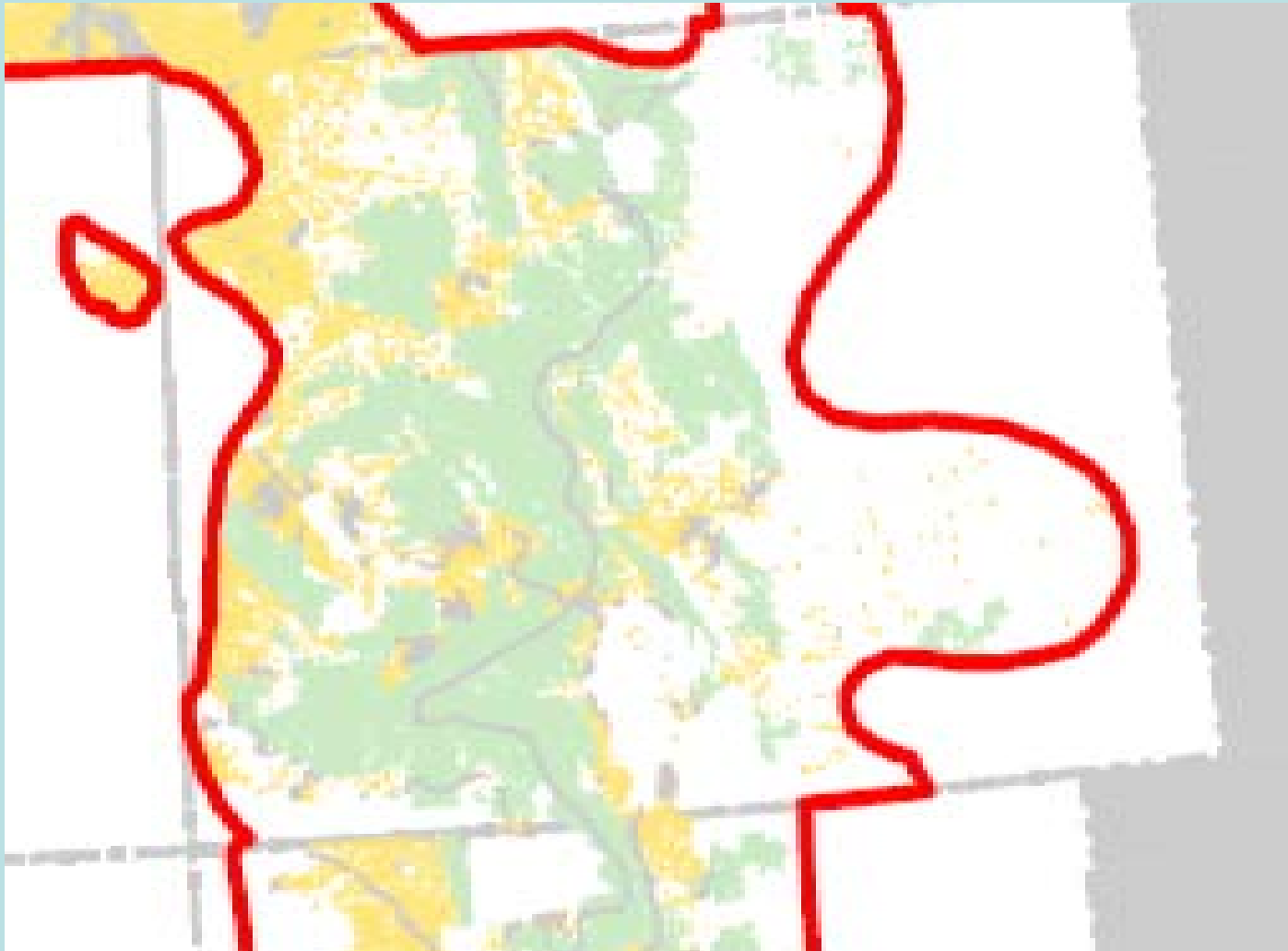
**June 2008 – Public Meetings**

**December – Final PGEIS**

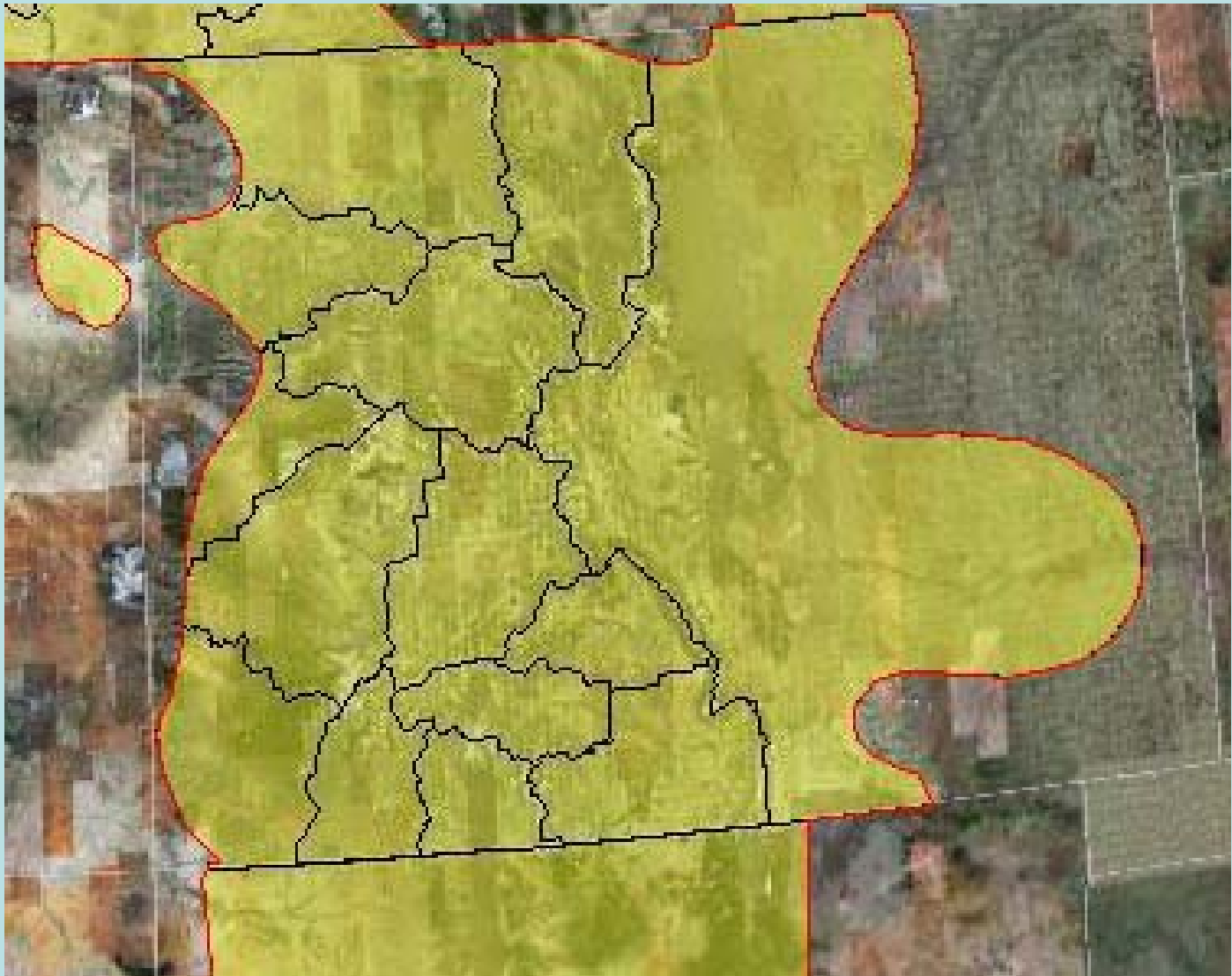
# Estimate Future Geothermal Electrical Generation Development

State	Estimated Commercial Development (2015)	Estimated Commercial Development (2025)
California	2375	4703
Nevada	1473	2880
Idaho	855	1670
Oregon	380	1250
Utah	230	620
Washington	50	600
New Mexico	80	170
Alaska	20	150
Arizona	20	50
Colorado	20	50
Montana	n/a	n/a
Wyoming	0	0
<i>Source: WGA 2006, BLM and DOE 2003</i>		

# Federal Lands - Colorado



# Geothermal Potential - Colorado





# **Geothermal Leasing Process**

**Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**

# Available Land

- Lands administered by DOI
- Lands administered by the Department of Agriculture w/ its concurrence
- Lands conveyed to US where geothermal resources were reserved to US
- Lands subject to Sec. 24 of Federal Power Act, with DOE concurrence

# **Geothermal Leasing Process**

**Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**

# Nomination of Lands

- Nomination Form 3203-10
  - One nomination per form
- Maximum Nomination Size
  - 5,120 Acres (unless includes irregular subdivision)
- Description of Lands Nominated
  - Public land system (T,R,S, & aliquot part)
  - Fractional interest lands (US mineral ownership as %)
- Nomination Filing Fee (43 CFR 3000.12)
  - \$100 per nomination + \$0.10 per acre
- Block Nominations
  - Parcels may be sold as a block that could be produced as 1 unit

# **Geothermal Leasing Process**

**Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**

# Competitive Leasing

## Lands Offered

- Nominated Lands

- BLM Motion

## Lease Sale Notice

- The lease sale format and procedures

- The time, date and place of the lease sale

- Stipulations applicable to each parcel

- Published 45 days prior to sale (Post the Notice in the BLM office having jurisdiction over the lands to be offered)

- May be held in conjunction with oil & gas lease sale

# Competitive Leasing (Cont'd)

## Lease Sale Format

- Oral Bidding (Competitive bidding)
- Offered to Highest Qualified Bidder

## Lease Issuance

### Payments:

- Close of Official Business hour on day of sale Competitive Lease Application Fee (43 CFR 3000.1)

- 1st year's rental

- 20% of Bonus bid

- Within 15 calendar days after the last day of the sale: Balance of bonus bid



# **Geothermal Leasing Process**

**Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**

# Noncompetitive Leasing

## (Other than Direct Use Leasing)

- Lands Not Sold at Competitive Lease Sale
  - Available for period of two years (2 year window)
  - Beginning from first business day following sale
  - Applications only accepted for parcels as configured in Notice of Competitive Geothermal Lease Sale for 30 days after the sale (parcel integrity)
  - Applications for a specific parcel received on first business day after the sale – considered as simultaneously filed
  - One application per parcel, BLM will randomly select an application among those accepted to receive the lease
  - After 30 day (parcel integrity) period applicant may file for any available lands

# Noncompetitive Leasing

## (Other than Direct Use Leasing)

### Non-Competitive Leasing to a Mining Claimant

Submit Form 3200-24a, Offer to Lease and Lease for Geothermal Resources, two copies (one with original signature)

Provide documentation:

- Mining claim ownership

- Current approved plan of operations for the mine

# **Geothermal Leasing Process**

**Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**

# Direct Use Leasing

Secretary of Interior may identify lands exclusively for direct use

File noncompetitive lease application (Form 3200-24a)

Acreage no larger than reasonably necessary to accommodate intended use

BLM posts application for 90 days

If competitive interest or nomination is received for competitive leasing, lands will be offered for competitive sale

State, Tribal or Local Governments-Use resource without sale & for public purposes other than commercial generation of electricity – nominal fee for use

# **Geothermal Leasing Process**

**Programmatic Geothermal EIS**

**Available Land**

**Nomination of Lands**

**Competitive Leasing**

**Noncompetitive Leasing**

**Direct Use Leasing**

**Lease Issuance**

# Lease Issuance

- Applicant must:
  - Accept all lease terms
  - Make all required payments
  - Sign joinder or waiver ( if applicable)
  - Comply with maximum limit on acreage holdings
    - 51,200 acres in any one state
    - Acreage included in an approved unit agreement, drilling contract, or development contract is not counted
- BLM Must:
  - Determine land is available
  - Determine that lease will not have a significant adverse impact on any significant thermal feature in specific units of the National Park Service
- Lease issued:
  - Day BLM signs lease, goes into effect first day of following month.



# BLM Web Sites

## **Programmatic Geothermal EIS (regulations, maps, etc.)**

- [http://www.blm.gov/wo/st/en/prog/energy/geothermal/geothermal\\_nationwide.html](http://www.blm.gov/wo/st/en/prog/energy/geothermal/geothermal_nationwide.html)

## **LR-2000**

- <http://www.blm.gov/lr2000/index.htm>

## **Geocommunicator**

- <http://www.geocommunicator.gov/GeoComm/index.shtm>